

WHAT IS CLAIMED IS:

1. A seed of the corn variety I015011, wherein a sample of the seed of the corn variety I015011 was deposited under ATCC Accession No. - - - - -.
- 5 2. A population of seed of the corn variety I015011, wherein a sample of the seed of the corn variety I015011 was deposited under ATCC Accession No. - - - - -.
3. The population of seed of claim 2, further defined as an essentially homogeneous population of seed.
- 10 4. The population of seed of claim 2, further defined as essentially free from hybrid seed.
5. A corn plant produced by growing a seed of the corn variety I015011, wherein a sample of the seed of the corn variety I015011 was deposited under ATCC Accession No. - - - - -.
- 15 6. The corn plant of claim 5, having:
 - (a) an SSR profile in accordance with the profile shown in Table 5; or
 - 20 (b) an isozyme typing profile in accordance with the profile shown in Table 6.
7. A plant part of the corn plant of claim 5.
8. The plant part of claim 7, further defined as pollen.
- 25 9. The plant part of claim 7, further defined as an ovule.
10. The plant part of claim 7, further defined as a cell.
- 30 11. The plant part of claim 10, wherein said cell is further defined as having :

- (a) an SSR profile in accordance with the profile shown in Table 5; or
- (b) an isozyme typing profile in accordance with the profile shown in Table 6.

12. A seed comprising the cell of claim 10.

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13. A tissue culture comprising the cell of claim 10.

14. An essentially homogeneous population of corn plants produced by growing the seed of the corn variety I015011, wherein a sample of the seed of the corn variety I015011 was deposited under ATCC Accession No. - - - - -.

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15. A corn plant capable of expressing all the physiological and morphological characteristics of the corn variety I015011, wherein a sample of the seed of the corn variety I015011 was deposited under ATCC Accession No. - - - - -.

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16. The corn plant of claim 15, further comprising a nuclear or cytoplasmic gene conferring male sterility.

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17. A tissue culture of regenerable cells of a plant of corn variety I015011, wherein the tissue is capable of regenerating plants capable of expressing all the physiological and morphological characteristics of the corn variety I015011, wherein a sample of the seed of the corn variety I015011 was deposited under ATCC Accession No. - - - - -.

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18. The tissue culture of claim 17, wherein the regenerable cells comprise cells derived from embryos, immature embryos, meristematic cells, immature tassels, microspores, pollen, leaves, anthers, roots, root tips, silk, flowers, kernels, ears, cobs, husks, or stalks.

19. The tissue culture of claim 18, wherein the regenerable cells comprise protoplasts or callus cells.

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20. A corn plant regenerated from the tissue culture of claim 17, wherein the corn plant is capable of expressing all of the physiological and morphological characteristics of the corn variety designated I015011, wherein a sample of the seed of the corn variety I015011 was deposited under ATCC Accession No. - - - - -.

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21. A process of producing corn seed, comprising crossing a first parent corn plant with a second parent corn plant, wherein one or both of the first or the second parent corn plant is a plant of the corn variety I015011, wherein a sample of the seed of the corn variety I015011 was deposited under ATCC Accession No. - - - - -, wherein seed is allowed to form.

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22. The process of claim 21, further defined as a process of producing hybrid corn seed, comprising crossing a first inbred corn plant with a second, distinct inbred corn plant, wherein the first or second inbred corn plant is a plant of the corn variety I015011, wherein a sample of the seed of the corn variety I015011 was deposited under ATCC Accession No. - - - - -.

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23. The process of claim 22, wherein crossing comprises the steps of:

- (a) planting the seeds of first and second inbred corn plants;
- (b) cultivating the seeds of said first and second inbred corn plants into plants that bear flowers;
- (c) preventing self pollination of at least one of the first or second inbred corn plant;
- (d) allowing cross-pollination to occur between the first and second inbred corn plants; and
- (e) harvesting seeds on at least one of the first or second inbred corn plants, said seeds resulting from said cross-pollination.

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24. Hybrid corn seed produced by the process of claim 23.

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25. A hybrid corn plant produced by growing a seed produced by the process of claim 23.

26. The hybrid corn plant of claim 25, wherein the plant is a first generation (F₁) hybrid corn plant.

27. The corn plant of claim 5, further defined as having a genome comprising a single locus conversion.

28. The corn plant of claim 27, wherein the single locus was stably inserted into a corn genome by transformation.

29. The corn plant of claim 27, wherein the locus is selected from the group consisting of a dominant allele and a recessive allele.

30. The corn plant of claim 27, wherein the locus confers a trait selected from the group consisting of herbicide tolerance, insect resistance, resistance to bacterial, fungal, nematode or viral disease, yield enhancement, waxy starch, improved nutritional quality, enhanced yield stability, male sterility and restoration of male fertility.

31. A method of producing an inbred corn plant derived from the corn variety I015011, the method comprising the steps of:

- (a) preparing a progeny plant derived from corn variety I015011 by crossing a plant of the corn variety I015011 with a second corn plant, wherein a sample of the seed of the corn variety I015011 was deposited under ATCC Accession No. - - - - -;
- (b) crossing the progeny plant with itself or a second plant to produce a seed of a progeny plant of a subsequent generation;

- (c) growing a progeny plant of a subsequent generation from said seed and crossing the progeny plant of a subsequent generation with itself or a second plant; and
- (d) repeating steps (b) and (c) for an addition 3-10 generations to produce an inbred corn plant derived from the corn variety I015011.

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